

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) A unitized pinion seal for mounting between a first member and a second member rotatable relative to the first member, the unitized pinion seal comprising:

a metal sleeve including a first axially extending ~~ring-portion~~ leg having an inner surface covered with an elastomeric seal layer adapted to mount rotationally fixed to the first member, a radially extending ~~portion~~ leg extending radially outward from an end of said first axially extending ~~ring-portion~~ leg and a second axially extending ~~ring-portion~~ leg extending axially from a radially outer end of said radially extending ~~portion~~ leg;

a metal retainer having a first axially extending ~~portion~~ leg slidably mounted directly to the second axially extending ~~ring-portion~~ leg of said metal sleeve in a radial interference fit and having a second ~~portion~~ leg adapted to mount to the second member and a third ~~portion~~ leg engaging said radially extending ~~portion~~ leg of said metal sleeve, said first axially extending ~~portion~~ leg having a smaller diameter than said second ~~portion~~ leg of said metal retainer; and

a seal mounted to said retainer and engaging said first axially extending ~~ring-portion~~ leg of said metal sleeve;

wherein said metal retainer is disengaged from said metal sleeve during assembly of said metal sleeve on to said first member, such that said third leg of said

metal retainer is moved axially away from said radially extending portion of said metal sleeve.

2. (original) The unitized pinion seal of claim 1 wherein the first member is an axle companion flange and the second member is a carrier/bearing cage.

3. (currently amended) The unitized pinion seal of claim 1 wherein the metal sleeve is adapted to install to the first member with a radial interference fit such that the radial interference fit of the seal to the metal sleeve creates a greater axial retention load than an axial installation load created by the interference fit of the metal sleeve relative to the first member.

4. (currently amended) The unitized pinion seal of claim 3 wherein said metal retainer first axially extending ~~portion~~ leg and said third ~~portion~~ leg are portions of a first retainer ring engaging said metal sleeve prior to assembly of said unitized pinion seal to said first member.

5. (currently amended) The unitized pinion seal of claim 4, wherein said metal retainer second ~~portion~~ leg is a portion of a second retainer ring engaging the seal body.

6. (canceled)

7. (currently amended) A unitized pinion seal for mounting between a first member and a second member rotatable relative to the first member, the unitized pinion seal comprising:

a metal sleeve adapted to mount rotationally fixed to the first member, said sleeve including an outer surface having a ramp portion disposed between an axially extending forward cylindrical ~~portion~~ leg and an axially extending rear cylindrical ~~portion~~ leg, wherein said axially extending forward cylindrical ~~portion~~ leg has a smaller diameter than said axially extending rear cylindrical ~~portion~~ leg; and

a seal supported by a metal retainer, said metal retainer including a first axially extending ~~portion~~ leg which is mounted directly to an axially extending surface of the metal sleeve in a radial interference fit and said metal retainer including a second ~~portion~~ leg adapted to mount to the second member, said seal including a first seal lip engaging said axially extending forward cylindrical ~~portion~~ leg and a second seal lip engaging said axially extending rear cylindrical ~~portion~~ leg.

8. (currently amended) The unitized pinion seal of claim 7, wherein the seal includes a third seal lip positioned adjacent the second seal lip and engaging said axially extending rear cylindrical ~~portion~~ leg of said metal sleeve.

9. (currently amended) The unitized pinion seal of claim 7, wherein the metal sleeve further comprises a radially extending ~~portion~~ leg extending radially outward from an end of said axially extending rear cylindrical ~~portion~~ leg and an axially extending ~~ring-portion~~ leg extending axially from a radially outer end of said radially extending ~~portion~~ leg, said metal retainer first axially extending ~~portion~~ leg being mounted to a surface of said axially extending ~~ring-portion~~ leg of said metal sleeve; and

wherein said axially extending ~~ring-portion~~ leg and said axially extending forward and rear cylindrical ~~portions~~ legs of said metal sleeve each include a length greater than a length of said radially extending portion of said metal sleeve.

10. (currently amended) The unitized pinion seal of claim 9, wherein said first axially extending ~~portion~~ leg of said metal retainer is a portion of a rigid first retainer ring, said first retainer ring including a first radially extending ~~portion~~ leg extending from one end of the first axially extending ~~portion~~ leg and a second radially extending ~~portion~~ leg extending from an opposite end of said first axially extending ~~portion~~ leg and engaging said radially extending ~~portion~~ leg of said metal sleeve.

11. (currently amended) The unitized pinion seal of claim 10, wherein said second retainer ~~portion~~ leg is a portion of a second retainer ring, said second retainer ring including a first radially extending ~~portion~~ leg extending radially inward from an end of said second retainer ~~portion~~ leg and supporting said seal, and a third radially extending ~~portion~~ leg extending from another end of said second retainer ~~portion~~ leg in a radially outward direction, said third radially extending ~~portion~~ leg engaging said first

radially extending ~~portion~~ leg of said first retainer ring and adapted to mount to said second member.

12. (currently amended) The unitized pinion seal of claim 7, wherein the metal sleeve further includes an elastomeric seal layer covering a surface of the axially extending forward and rear cylindrical ~~portions~~ leg of the metal sleeve adapted to mount rotationally fixed to the first member, the elastomeric seal layer including a pair of raised sealing ribs, with one of the ribs positioned adjacent the axially extending forward ~~portion~~ leg and the other positioned adjacent the axially extending rearward ~~portion~~ leg of the metal sleeve.

13. (currently amended) The unitized pinion seal of claim 1, wherein said seal includes first and second sealing ~~lips~~ lip engaging said first axially extending ~~ring~~ ~~portions~~ leg of said metal sleeve.

14. (currently amended) The unitized pinion seal of claim 13, wherein said seal includes a third sealing lip engaging said first axially extending ~~ring~~ ~~portion~~ leg of said metal sleeve.

15. (currently amended) The unitized pinion seal of claim 1, wherein the first and second axially extending ~~ring~~ ~~portions~~ legs of said metal sleeve include a length greater than a length of said radially extending ~~portion~~ leg of said metal sleeve.

16. (currently amended) The unitized pinion seal of claim 5, wherein said third ~~portion~~ leg of said first retainer ring includes a radially extending ~~portion~~ leg extending from one end of said first axially extending ~~portion~~ leg of said first retainer ring, said first retainer ring further comprising a second radially extending ~~portion~~ leg extending from another end of said first axially extending ~~portion~~ leg; and

wherein said second retainer ring includes a first radially extending ~~portion~~ leg extending from an end of said second ~~portion~~ leg and mounted to said seal, and a third radially extending ~~portion~~ leg extending from another end of said second ~~portion~~ leg of said second retainer ring and engaging said second radially extending ~~portion~~ leg of said first retainer ring and adapted to engage said second member.

17. (previously presented) The unitized pinion seal of claim 1, wherein the elastomeric seal layer further comprises a pair of spaced apart raised rib portions adapted to engage the first member.

18. (currently amended) The unitized pinion seal of claim 2, wherein the axle companion flange further includes a deflector, the deflector configured to engage the radially extending ~~portion~~ leg of the metal sleeve during assembly of the metal sleeve to the axle companion flange and disengage the metal sleeve from the first retainer ring.

19. (previously presented) A unitized pinion seal for mounting between a first member and a second member rotatable relative to the first member, the unitized pinion seal comprising:

a sleeve including a first axially extending ring portion at least partially covered with an elastomeric seal layer adapted to mount rotationally fixed to the first member, a radially extending portion extending radially outward from an end of said first axially extending ring portion and a second axially extending ring portion extending axially from a radially outer end of said radially extending portion, said first and second axially extending ring portions of said sleeve having a length greater than a length of said radially extending portion of said sleeve, and said elastomeric seal layer including a pair of spaced apart raised ribs;

a first retainer having a first axially extending portion slidably mounted directly to the second axially extending ring portion of said sleeve in a radial interference fit, a second radially inward extending portion extending from one end of said first axially extending portion and engaging said radially extending portion of said sleeve, and a third radially extending portion extending radially outward from an opposite end of said first axially extending portion of said first retainer ring;

a second retainer ring having an axially extending portion adapted to engage said second member, a first radially extending portion extending radially outward from an end of said axially extending portion of said second retainer ring and adapted to engage said second member on one side and coupled to said first retainer ring on another side, and a second radially extending portion extending radially inward from an opposite end of said second retainer ring axially extending portion, said first

axially extending portion of said first retainer ring having a smaller diameter than said axially extending portion of said second retainer ring; and

a seal having a body portion mounted to said second radially extending portion of said second retainer ring, and first, second and third sealing lips extending from said body portion and engaging said first axially extending ring portion of said sleeve;

wherein said first retainer ring is disengaged from said sleeve by said first member engaging said radially extending portion of said sleeve during assembly of said sleeve on to said first member.